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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/651,118

08/28/2003

Aubrey R. Thoede

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7849

7590

06/22/2004

BRACEWELL & PATTERSON, L.L.P.

Attention: James E. Bradley

P.O. Box 61389

Houston, TX 77208-1389

EXAMINER

COHEN, AMY R

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 06/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/651,118

Applicant(s)

THOEDE ET AL.

Examiner

Amy R Cohen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/19/04, 2/5/04</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Howard (U. S. Patent No. 3,934,543).

Howard teaches a detector (Fig. 1) for mounting to an air filter (142), comprising: a housing (Figs. 9 and 10) adapted to be mounted to the filter; a pressure responsive element (12) mounted to the housing, the pressure responsive element having an upstream side (11) adapted to be in communication with air pressure on an upstream side of the filter (148) and a downstream side (13) adapted to be in communication with air pressure on a downstream side (146) of the filter (see Fig. 2 for details of the detector and Figs. 9 and 10 for how the detector is in communication with the air flow), the pressure responsive element being movable in response to a sufficient difference in upstream and downstream pressures from a first position to a second position (Col 7, lines 10-55); a stationary electrical contact (70) mounted in the housing; a movable electrical contact (105) mounted to the pressure responsive element, the contacts engaging each other while the pressure responsive element is in one of the positions and disengaging each other while the pressure responsive element is in the other of the positions (Col 5, lines 27-34); an electrical circuit connected to the contacts for providing a signal when a change in one of the positions occurs (Col 7, lines 10-55); and wherein the pressure responsive

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element blocks any flow of air through the housing from an upstream side of the housing to a downstream side of the housing (Fig. 2, Col 3, lines 41-56 and Col 4, lines 8-36).

Howard teaches the detector comprising: a cavity (30) located in the housing, the pressure responsive element being located in the cavity; an upstream air inlet (11) leading from the upstream side of the housing to the cavity on the upstream side of the pressure responsive element; and a downstream air inlet (13) leading from the downstream side of the housing to the cavity on the downstream side of the pressure responsive element (Fig. 2, and Col 3, line 26-Col 4, line 36).

Howard teaches the detector wherein the electrical contacts engage each other when the pressure responsive element is in the second position (Col 7, lines 10-55).

Howard teaches the detector wherein the pressure responsive element comprises a thin, plastic film (Col 4, lines 8-14).

Howard teaches the detector comprising: a tube protruding from the upstream side of the housing for communicating air pressure to the pressure responsive element upstream of the filter, the tube adapted to penetrate at least a portion of the filter while the housing abuts the downstream side of the filter (Figs. 9 and 10, Col 3, lines 26-56, Col 7, lines 10-55).

Howard teaches the detector wherein the tube has a closed upstream end and a sidewall containing a port adjacent to the upstream end; and an opening along its sidewall adjacent the upstream end to communicate air pressure to the interior of the tube (Figs. 9 and 10, Col 3, lines 26-56, Col 7, lines 10-55).

Howard teaches the detector wherein the movable electrical contact comprises a flexible metallic strip mounted flush to the downstream side of the diaphragm (105 is the contact, which is mounted flush with 90, see Figs. 2 and 5, which is on the downstream side of the diaphragm).

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Howard teaches the detector wherein the stationary electrical contact comprises a metallic pin (80, 84) extending through a portion of the housing normal to the diaphragm.

Howard teaches the detector wherein the housing comprises: a body (30) having a central recess (31) formed therein; an upstream plate (32) secured to the body over the central recess, defining the cavity (Fig. 2), the upstream inlet (11) extending through the upstream plate, the diaphragm having a perimeter mounted to the downstream side of the upstream plate (Fig. 2); and wherein at least a portion of the downstream inlet (13) extends through the body (Fig. 2).

Howard teaches the detector comprising a downstream plate (this is the raised portion around 13, Fig. 2) secured to the body opposite the upstream plate, at least a portion of the downstream air inlet being formed in the downstream plate (Fig. 2).

Howard teaches a method of detecting a condition of an air filter, comprising: mounting in a housing a movable pressure responsive element, a stationary electrical contact, and a movable electrical contact, the movable contact being mounted to the pressure responsive element for movement between a first position in which the contacts are in disengagement with each other and a second position in engagement with each other; then mounting the housing to the filter; flowing air through the filter; communicating air pressure on an upstream side of the filter to one side of the pressure responsive element, and communicating air pressure on a downstream side of the filter to the other side of the pressure responsive element, and causing the pressure responsive element and the movable contact to move if a difference between the air pressures is sufficient; once the difference in air pressures reaches a sufficient level, causing the contacts to change from one of the first and second positions to the other of the first and second positions; monitoring the change in the positions of the contacts with an electrical circuit and providing a signal when the change occurs; and preventing any air flow from an upstream side to

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a downstream side of the housing during the previous steps (Col 2, lines 16-50, Col 3, line 26-Col 4, line 36, Col 4, lines 50-63, Col 5, lines 27-34, Col 5, line 60-Col 6, line 52, and Col 7, lines 10-55).

Howard teaches the method wherein when the sufficient pressure difference occurs, the contacts will move from the first to the second position (Col 7, lines 10-55).

Howard teaches the method wherein the pressure responsive element blocks any air flow from flowing from the upstream side to the downstream side of the housing (Col 3, line 26-Col 4, line 36).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents disclose detectors Scofield (U. S. Patent No. 6,734,801), Mouw et al. (U. S. Patent No. 6,026,539), Naquin, Jr. (U. S. Patent No. 5,917,141), Adelman et al. (U. S. Patent No. 5,451,929), Card (U. S. Patent No. 5,057,821), Frano et al. (U. S. Patent No. 4,520,748), Mayer (U. S. Patent No. 4,040,042), Lewis (U. S. Patent No. 3,052,207), and Leefer (U. S. Patent No. 2,843,077).

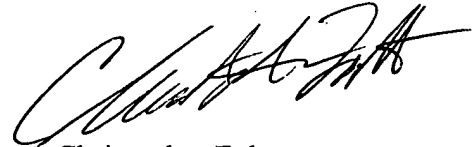
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy R Cohen whose telephone number is (571) 272-2238. The examiner can normally be reached on 8 am - 5 pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ARC
June 18, 2004

A handwritten signature in black ink, appearing to read 'Christopher Fulton', is written over a horizontal line.

Christopher Fulton
Primary Examiner
Tech Center 2800